

## **STATEMENT OF LEGAL AND FACTUAL BASIS**

CPFilms, Inc.  
P. O. Box 170, Axton, VA 24054  
Permit No. WCRO-30877

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, CPFilms, Inc. has applied for a Title V Operating Permit renewal for its solar controlled window film manufacturing plant in Axton. The Department reviewed the application for permit renewal and prepared a draft/proposed Title V Operating Permit.

Engineer/Permit Contact:\_\_\_\_\_ Date: July 5, 2007

Air Permit Manager:\_\_\_\_\_ Date:\_\_\_\_\_

## **FACILITY INFORMATION**

### Permittee

Solutia, Inc.  
P.O. Box 66760  
St. Louis, MO 63166-66760

### Facility

CPFilms, Inc.  
47 Brenda Drive  
Axton, VA 24054

AIRS No.: 51-089-0091  
Registration No.: 30877

First Renewal of Title V Operating Permit

## **SOURCE DESCRIPTION**

NAICS Code: 322222 – Coated and Laminated Paper Manufacturing.  
SIC Code 2672 – Coated and Laminated Paper.

This facility was constructed in 1985 by Commonwealth Film Processing. The facility was then purchased first by Martin Processing Inc. and then Courtaulds Performance Films (now CPFilms, Inc.) The current parent company of CPFilms, Inc. is Solutia, Inc.

The facility has a State Operating Permit that limits their emissions of VOCs to below 250 tons per year.

The facility has two continuous polyester film dye lines that are used to dye the film prior to further processing at the CPFilms Fieldale facility or being sold to other window film product manufacturers. Each dye line is rated at 48,750 ft<sup>2</sup> film/hr and consists of the following devices: an unwinding station, dye mixing tank, heated ethylene glycol (EG) dye bath, N-Methyl-2-Pyrrolidone (NMP) wash bath, two water wash baths, a dryer and a rewinding station. The dispersive powdered dyes are mixed in EG tanks and pumped to the dye bath. The web film passes through the heated dye bath where the dye penetrates the film. The EG emissions from the dye bath are collected by exhaust hoods, which have a designed capture efficiency of 95%. The captured EG emissions are recovered for reuse by the EG recovery system; the EG recovery system consists of a pre-cooler in series with a Brinks mist eliminator and storage tanks.

Following the dye bath the film is washed in NMP and two subsequent water baths to remove the excess dyes. The NMP baths, water wash baths and dryers do not have exhaust hoods or VOC emissions control devices. The NMP emissions are vented through the building's roof and wall vents. After rinsing the film is dried; the dryer's burner is rated at 1.2 MMBtu/hr and operates on propane.

The facility is a Title V major source due to potential VOC emissions exceeding 100 tons/yr and potential individual HAPs exceeding 10 tons/yr and combined HAPs exceeding 25 tons/yr.

MACT, 40 CFR 63 Subpart JJJJ, does not apply to the facility because that MACT covers coating operations and this facility only involves dyeing. MACT, 40 CFC 63 Subpart OOOO does not apply because it covers the coating and dyeing of fabric, not film.

This facility is located in an attainment area for all pollutants. It is not a PSD definition major source due permit limits that restrict the potential emissions of VOC to less than 250 tons/yr. None of the NSPS regulations apply to the facility.

The facility has the following permits: February 27, 2001 State Operating Permit superseded June 8, 2007.

The original Title V operating permit was issued on September 28, 2001. The original permit will be replaced with this first renewal. The applicant submitted a timely and complete Title V permit application for a renewal, which extends the terms of the current Title V permit until renewal.

## **COMPLIANCE STATUS**

The facility was determined to be in compliance during its last inspection on September 8, 2005.

## EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emission units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity	Pollution Control Device (PCD) Description	Pollutant Controlled	Applicable Permit Date
<b>Process Units</b>						
01	01	#5 Dye Line, includes dye bath, wash baths and dryer.	48,750 ft <sup>2</sup> /hour	Brinks (2000) Mist Eliminator with pre-cooler (EG Recovery System)	VOC	SOP June 8, 2007
02	02	#6 Dye Line, includes dye bath, wash baths and dryer	48,750 ft <sup>2</sup> /hour	Brinks (2000) Mist Eliminator with pre-cooler (EG Recovery System)	VOC	SOP June 8, 2007

## EMISSIONS INVENTORY – Actual Emissions

Actual plant emissions for calendar year 2005 are summarized as follows:

<b>2005 Actual Pollutant Emissions in Tons per Year</b>		
	Ethylene Glycol	VOC
TOTAL	58.0	69.0

## NSPS, MACT, and CAM APPLICABILITY

NSPS – The NSPS regulations do not apply to any of the equipment at this facility.

MACT – MACT, 40 CFR 63 Subpart JJJJ, does not apply to the facility because that MACT covers coating operations and this facility only involves dyeing. MACT, 40 CFC 63 Subpart OOOO does not apply because it covers the coating and dyeing of fabric, not film.

CAM – Compliance Assurance Monitoring. CAM applies to both the No.5 and No.6 dye baths at the facility. CAM applies because both Pollutant Specific Emissions units (PSEU) are 1) subject to an emissions limit 2) use a control device to achieve compliance, and 3) have potential pre-

control emissions that exceed or are equivalent to the major source threshold.

Both PSEUs are considered large units because the potential post-control emissions are greater than the major source threshold.

The CAM regulation (40 CFR Part 64.1) exempts *Inherent process equipment* from being applicable to the regulation. Although condensers can be considered inherent process equipment, the condensers at this facility do not meet the definition of inherent process equipment because the source installed and operated the equipment primarily for the purpose of compliance with air pollution regulations. In addition, the source increased the efficiency of the equipment (by operating at higher temperatures) in order to comply with the applicable emission limitation or standard.

## **CHANGES TO PLANT**

No changes in the plant since issuance of the original Title V permit.

## **CHANGES TO PERMIT**

1. Replaced “Director” with “Air Compliance Manager” for reporting.
2. Updated permit language by using the current Title V permit boilerplate.
3. Included the CAM Plan.
4. The initial Title V permit required weekly visible emission evaluations (VEE) and monthly VEE if the source compiled six months of VEE showing compliance. This permit allows monthly VEE unless any VEE exceeds the permit limits. If the facility exceeds a visible emissions limit then the facility must conduct weekly VEE on that piece of equipment, until they compile six months of VEE showing compliance.
5. Included changes that were incorporated in the facility’s State Operating Permit.
  - a. Condition III.B.3 - The requirement to record the pressure drop across the demister was changed from once per shift to once per day. The source provided justification for the change – five years of records showing compliance with the operating limit.
  - b. Condition III.C.1 - Replacement of the formula used to show compliance with the statement *"Emission calculations for VOCs from the dye lines (Ref. Nos. 5 & 6) using calculation methods approved by the Air Compliance Manager, West*

*Central Regional Office to verify compliance with the emissions limitation... ”.*

The use of this statement is based on current boilerplate language and also allows the source or the DEQ to change the formula without requiring a permit amendment.

- c. Condition III.B.1 - Removal of the once per shift requirement to record the temperature of the recovery system exhaust temperature. This condition was redundant since the source was already required to have an audible alarm and continuously record the temperature.

## REPORTING

- Annual Title V Compliance Certifications -The permittee shall submit calendar year Title V Compliance Certifications by March 1 of each year to the DEQ and to the EPA.

- Semi-Annual Title V Reports - The permittee shall submit semi-annual Title V Reports by March 1 and September 1 of each year to the DEQ. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.

- CAM Compliance Reports – The source will meet CAM reporting requirements by incorporating any CAM compliance issues into the Title V reports. The October 22, 1997 Federal Register (Page 54938) explains that the EPA did not intend to create a separate compliance certification requirement for CAM.

- Malfunction or Deviation Reports - The permittee shall report to the DEQ within 4 daytime business hours after the discovery of any malfunction and any deviation from permit requirements that may cause excess emissions for more than one hour. A written statement with the pertinent information shall be submitted to DEQ within 14 days of discovery.

## GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. Selected requirements are noted below.

### B. Permit Expiration

This condition refers to the five year permit term, to the permittee's responsibility to apply for renewal, to the Board taking action on a permit application, and to the prior terms and conditions remaining in effect until the renewal is issued or denied. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.1-20.01:2 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 3-2001".

## **J. Permit Modification**

This general condition cites the sections that follow:

- 9 VAC 5-80-50. Applicability, Federal Operating Permit for Stationary Sources
- 9 VAC 5-80-190. Changes to Permits
- 9 VAC 5-80-260. Enforcement
- 9 VAC 5-80-1100. Applicability, Permits for New and Modified Stationary Sources
- 9 VAC 5-80-1790. Applicability, Permits for Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

## **U. Malfunction as an Affirmative Defense**

The Virginia Regulations for the Control and Abatement of Air Pollution contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F.

This condition cites the sections that follow:

- 9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
- 9 VAC 5-80-110. Permit Content

## **Y. Asbestos Requirements**

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follows:

- 40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.
- 40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.
- 40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

## **STATE ONLY APPLICABLE REQUIREMENTS**

The source requested that the State Only applicable requirements that are in the underlying State Operating Permit not be included in the Title V permit.

## **FUTURE APPLICABLE REQUIREMENTS**

No future applicable requirements have been identified for this facility.

## **INAPPLICABLE REQUIREMENTS**

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A 3 (for pre-1972 existing emission units) cannot be included in any Title V permit because this portion of the

regulation is not part of the federally approved state implementation plan (SIP). The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. An opacity exceedance during a malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. An opacity exceedance during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

In contrast, the similar startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-50-20 A 4, for emissions units that are new or modified since 1972, is SIP approved and therefore applies to such emissions units. Since the dye baths were installed after 1972, the existing source opacity exclusion is not applicable for any equipment at this facility.

### COMPLIANCE PLAN

This facility is not subject to a compliance plan.

### INSIGNIFICANT EMISSION UNITS

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720 C)
03	Number 5 Dye Line Propane-fired dryer	5-80-720 C.2	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM <sub>10</sub>	1.2 MMBtu/hr (Heat Input)
04	Number 6 Dye Line Propane-fired dryer	5-80-720 C.2	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM <sub>10</sub>	1.2 MMBtu/hr (Heat Input)
05	Modine propane-fired space heaters.	5-80-720 A.4	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM <sub>10</sub>	0.15 MMBtu/hr (Heat Input), each
06	Rezor propane-fired space heaters.	5-80-720 A.4	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM <sub>10</sub>	0.10 MMBtu/hr (Heat Input), each
07	Trane propane-fired space heaters.	5-80-720 A.4	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM <sub>10</sub>	4.4 MMBtu/hr (Heat Input), each
08	6,000 gallon fixed roof fresh ethylene glycol (EG) storage tank.	5-80-720 B.2	VOC	<5.0 tons/year
09	6,000 gallon fixed roof fresh N-Methyl-2-Pyrrolidone (NMP) (CAS 872-50-4) storage tank.	5-80-720 B.2	VOC	<5.0 tons/year
10	6,000 gallon fixed roof waste	5-80-720 B.2	VOC	<5.0 tons/year



Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720 C)
	NMP and EG storage tank.			
11	Three (3) 1,000 gallon dye mixing tanks and funnel for #5 Dye Line.	5-80-720 B.2	VOC	<5.0 tons/year
12	Two (2) 1,000 gallon dye mixing tanks and funnel for #6 Dye Line.	5-80-720 B.2	VOC	<5.0 tons/year
13	Two (2) 6,000 gallon waste water storage tanks.	5-80-720 B.2	VOC	<5.0 tons/year
14	Four (4) 1,000 gallon propane tanks.	5-80-720 B.2	VOC	<5.0 tons/year
15	Number 5 Dye Line Process Heater	5-80-720 C.2	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM <sub>10</sub>	3.5 MMBtu/hr
16	Number 6 Dye Line Process Heater	5-80-720 C.2	NO <sub>x</sub> , SO <sub>2</sub> , CO, VOC, PM <sub>10</sub>	3.5 MMBtu/hr

### CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

### PUBLIC PARTICIPATION

The draft/proposed permit was advertised for public notice in the Martinsville Bulletin on May 20, 2007. The required 30-day public notice period ended on June 19, 2007.

The EPA 45 day concurrent review period was May 17, 2007 through July 1, 2007.

No comments were received.

This permit was advertised for *concurrent review*.